Biochimica et Biophysica Acta 1823 (2012) 1405

Contents lists available at SciVerse ScienceDirect

Biochimica et Biophysica Acta

journal homepage: www.elsevier.com/locate/bbamcr

Special issue: Cell Biology of Metals

"What progress humanity has made, not only in physical welfare but also in the conquest of superstition and hatred, and in the formation of a correct view of life, it owes directly to mechanistic science" Jacques Loeb Marine Biological Laboratory 1915

Once again we have the privilege of serving as editors for this special issue on the Cell Biology of Metals. While only 6 years have passed since the previous special issue on this topic, the reader will soon realize the extraordinary pace of research in this area and the rich and diverse contributions to new knowledge in this field. While transition metals serve essential roles in all living organisms, these inorganic elements are neither produced nor consumed during metabolism and are all potentially toxic to the cell. Thus the cell biology of metals poses unique and complex requirements that often reside directly at the interface of chemistry and biology. The cell biology of metals is now a broad and highly productive field of investigation with discoveries that contribute to diverse areas in biology and medicine. This current issue highlights many of these recent discoveries in some of the most fascinating areas thoughtfully detailed by leaders in this field. As should always be the case in science, the full intent is not simply to inform the reader but to stimulate ideas and generate controversy and enthusiasm for new discovery. We are certain that the authors have accomplished this task and can welcome the reader to the wonders that lie within. We hope that the articles and the included illustrations will also be useful for teaching purposes to attract the next generation of scientists to this exciting and still growing field of research.

Jonathan D. Gitlin is a Senior Scientist at the Marine Biological Laboratory in Woods Hole. His research has elucidated many of the fundamental aspects of copper and iron homeostasis in human health and disease and he is currently utilizing zebrafish as an experimental system to explore the role of genetics and nutrition in early human development. He is a pediatrician and a member of the National Academy of Sciences Institute of Medicine.

Roland Lill is a Full Professor at the Institute of Zytobiologie, Philipps-Universität Marburg. His research over the past decade has been focused on the elucidation of the components, mechanisms and disease relevance of iron-sulfur protein biogenesis and cellular iron regulation in eukaryotes. The bakers' yeast *Saccharomyces cerevisiae* and human cell culture are used as the major experimental systems. Roland Lill is a biochemist, fellow of the Max-Planck Society, and a member of the German National Academy of Sciences Leopoldina.

Jonathan D. Gitlin
Marine Biological Laboratory, 104/105 Lillie Building, 7 MBL Street, Woods Hole, Massachusetts 02543, USA
E-mail address: jgitlin@mbl.edu

Roland Lill
Institut für Zytobiologie, Philipps-Universität Marburg, Robert-Koch-Str. 6, 35032 Marburg, Germany
E-mail address: Lill@staff.uni-marburg.de

0167-4889/$ – see front matter
doi:10.1016/j.bbamcr.2012.07.008